Notice of Allowability	Application No.	Applicant(s)	
	10/064,211	BU, LIN-KAI	
	Examiner	Art Unit	
	DUC Q DINH	2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *June 28, 2004*.

2. ☒ The allowed claim(s) is/are *1-17*.

3. ☒ The drawings filed on *21 June 2002* are accepted by the Examiner.

4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

1. This is response to the Amendment filed on June 28, 2004. An Office Action is provided as follow.

Allowable Subject Matter

2. Claims 1-17 are allowed.

3. The following is a statement of reasons for the indication of allowable subject matter:

The present invention related to a method and an apparatus for driving an LCD with operational amplifiers. The LCD has a positive operational amplifier for driving pixels with positive voltages, a negative operational amplifier for driving pixels with negative voltages, and a detector. The method includes using the detector to determine which operational amplifier is to be used to drive a next pixel. If the next pixel need be displayed with a positive voltage, then the positive operational amplifier is used to drive the next pixel. If the next pixel need be displayed with a negative voltage, then the negative operational amplifier is used to drive the next pixel. Each independent claim identifies the uniquely distinct features

"using the controller to control either the positive buffer circuit or the negative buffer circuit for driving two adjacent pixels, which are located in the same column but different rows on the LCD panel corresponding to the two successive triggers of the horizontal synchronization signal, with voltages of the same polarity when the detector detects that states of the polarity signal at two successive triggers of the horizontal synchronization signal are the same so that the

positive buffer circuit continuously drives the pixels with the positive voltage and the negative buffer circuit continuously drives the pixels with the negative voltage; and

using the controller to control the positive buffer circuit and the negative buffer circuit for driving two adjacent pixels, which are located in the same column but different rows on the LCD panel corresponding to two successive triggers of the horizontal synchronization signal, with voltages of opposite polarities when the detector detects that two states of the polarity signal at two successive triggers of the horizontal synchronization signal differ. (claim 1) or

"a controller connected to the detector, the positive buffer circuit, and the negative buffer circuit for controlling operation of the positive buffer circuit and the negative buffer circuit according to an output of the detector;

wherein the controller controls either the positive buffer circuit or the negative buffer circuit for driving two adjacent pixels, which are located in the same column but different rows on the LCD panel corresponding to the two successive triggers of the horizontal synchronization signal, with voltages of the same polarity when the detector detects that states of the polarity signal at two successive triggers of the horizontal synchronization signal are the same so that the positive buffer circuit continuously drives the pixels with the positive voltage and the negative buffer circuit continuously drives the pixels with the negative voltage, and the controller controls the positive buffer circuit and the negative buffer circuit for driving two adjacent pixels, which are located in the same column but different rows on the LCD panel corresponding to two successive triggers of the horizontal synchronization signal, with voltages of opposite polarities

when the detector detects that two states of the polarity signal at two successive triggers of the horizontal synchronization signal differ. (claim 7) or

"a detector for receiving a horizontal synchronization signal and a polarity signal, the detector comprising: two latch circuits for holding the corresponding states of the polarity signal at two successive triggers of the horizontal synchronization signal; and a logic circuit for comparing two states of the polarity signal at two successive triggers of the horizontal synchronization signal; and

a controller connected to the detector, the positive buffer circuit, and the negative output buffer for controlling operation of the positive buffer circuit and the negative buffer circuit according to an output of the detector;

wherein the controller controls either the positive buffer circuit or the negative buffer circuit for driving two adjacent pixels, which are located in the same column but different rows on the LCD panel corresponding to the two successive triggers of the horizontal synchronization signal, with voltages of the same polarity when the detector detects that states of the polarity signal at two successive triggers of the horizontal synchronization signal are the same so that the positive buffer circuit continuously drives the pixels with the positive voltage and the negative buffer circuit continuously drives the pixels with the negative voltage, and

the controller controls the positive buffer circuit and the negative buffer circuit for driving two adjacent pixels, which are located in the same column but different rows on the LCD panel corresponding to two successive triggers of the horizontal synchronization signal, with

voltages of opposite polarities when the detector detects that two states of the polarity signal at two successive triggers of the horizontal synchronization signal differ". (Claim 13)

The closest prior art of Hashimoto (U. S. Patent No. 6,567,066) and Aso (U. S. Patent No. 6,518,947) show similar systems but either singularly or in combination, fail to anticipate or render above quoted limitations obvious.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **DUC Q DINH** whose telephone number is **(703) 306-5412** The examiner can normally be reached on Mon-Fri from 8:00.AM-4:00.PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **RICHARD A HJERPE** can be reached on **(703) 305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivery response should be brought to: Crystal Park II, 2121 Crystal Drive, Arlington, Va Sixth Floor (Receptionist)

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

DUC Q DINH
Examiner
Art Unit 2674

DQD
October 15, 2004

REGINA LIANG
PRIMARY EXAMINER